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17

Number of Pages (including this page)

Date: December 15, 2004

To: Ly, Nghi H. - Art Group: 2686

Location: United States Patent and Trademark Office

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From: Barbara R. Doutre REG. NO. 39,505

Subject: Serial No.: 09/596,442 Docket No.: CM03017J

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MESSAGE:

Enclosed herewith, please find the following documents for filing in the below-identified application:

- 1) Transmittal Letter for Brief on Appeal;
- 2) Transmittal Form;
- 3) Fee Transmittal in duplicate;
- 4) Appeal Brief - 12 pages.

EXAMINER:	Ly, Nghi H.
ART UNIT:	2686
APPLICATION SERIAL NO.:	09/596,442
FILE DATE:	June 19, 2000
INVENTOR:	Perkins et al.

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICANT(S)	Perkins, Matthew R. et al	CONFIRMATION NO.:	4005
APPLN. NO.:	09/596,442	EXAMINER:	LY, NGHI H.
FILED:	June 19, 2000	GROUP ART UNIT:	2686
DOCKET NO.	CM03017J		
TITLE:	ADAPTIVE CHANNEL ACCESS SCHEME		

DEC 15 2004

TRANSMITTAL LETTER FOR BRIEF ON APPEAL

Mail Stop APPEAL BRIEF-PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

SIR:

Transmitted herewith is an Appeal Brief filed on behalf of the applicants in the matter of the above entitled application. This Brief is filed pursuant to 37 CFR § 1.192 and following the Final Rejection dated July 26, 2004, Applicants' response After Final dated August 18, 2004, the Advisory Action dated November 16, 2004, and the Notice of Appeal filed by Applicant on December 3, 2004.

Please charge the fee \$500.00 for filing the enclosed Brief to Deposit Account 502117. A Fee Transmittal is included in duplicate.

SEND CORRESPONDENCE TO:

Motorola, Inc.
Law Department

Customer Number: 24273

Respectfully submitted,

By:

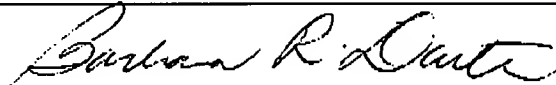



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CM03017J

TRANSMITTAL FORM <small>(to be used for all correspondence after initial filing)</small>	Application Number		09/596,442		
	Filing Date		June 19, 2000		
	First Named Inventor		Matthew R. Perkins		
	Group Art Unit		2686		
	Examiner Name		Ly, Nghi H.		
Total Number of Pages in this Submission		Attorney Docket Number		CM03017J	

ENCLOSURES			(check all that apply)
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/Declaration(s) <input type="checkbox"/> Extension of time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Documents <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts Under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-Related papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation, Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CDs	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter with appropriate copies <input type="checkbox"/> Other Enclosure(s) (please identify below) <input type="checkbox"/> Response to Restriction Requirement <input type="checkbox"/> Associate Power of Attorney <input type="checkbox"/> RCE <input type="checkbox"/> Copy of Notice to File Missing Parts	
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm or Individual	Barbara R. Doutre	Registration No.	39,505
Signature			
Date	December 15, 2004		

CERTIFICATE OF TRANSMITTAL/MAILING	
I hereby certify that this correspondence is being facsimile transmitted to facsimile number <u>(703) 872-9306</u> or deposited with the United States Postal Service with sufficient postage thereon, as first-class mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313 on the date listed below:	
Typed or printed name	Silvana Wiltshire
Signature	
Date	December 15, 2004

PAGE 4/17 * RCVD AT 12/15/2004 4:18:10 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-1/10 * DNIS:8729306 * CSID:9547233871 * DURATION (mm:ss):04:26

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

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APPLICANT: PERKINS ET AL. ART UNIT: 2686
APPLN. NO.: 09/596,442 EXAMINER: LY, NGHI H.
FILED: June 19, 2000
TITLE: ADAPTIVE CHANNEL ACCESS SCHEME

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attention: Board of Patent Appeals and Interferences

Dear Chief Administrative Patent Judge:

This Appeal Brief is in furtherance of the Notice of Appeal, transmitted via facsimile on December 3, 2004.

The fees required under 37 C.F.R. § 41.20(b)(2), and any required petition for extension of time for filing this Appeal Brief are dealt with in the accompanying Transmittal Form.

This brief is being transmitted by facsimile pursuant to 37 C.F.R. § 1.6(d).

This brief contains items under the headings listed in the following Table of Contents, and in the order indicated in 37 C.F.R. § 41.37(c).

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I. REAL PARTY IN INTEREST

The real party of interest is Motorola, Inc., a Delaware corporation.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

This is an appeal from the final rejection of claims 1-18 of the above-referenced application.

A. TOTAL NUMBER OF CLAIMS IN APPLICATION

Claims in the application are: 18

B. STATUS OF ALL THE CLAIMS

1. Claims allowed: none
2. Claims objected to: none
3. Claims rejected: 1-18

C. CLAIMS ON APPEAL

The claims on appeal are: 1-18

IV. STATUS OF AMENDMENTS

A Reply After Final Action under 37 C.F.R. § 1.116 was mailed on August 18, 2004 in response to a Final Rejection mailed November 16, 2004. The Reply included arguments and responses but no amendments. The Reply was considered by the Examiner, but deemed not to place the application in condition for allowance as indicated in an Advisory Action mailed November 16, 2004. Applicants faxed a Notice of Appeal on December 3, 2004. This Appeal Brief is submitted in support of the Notice of Appeal.

V. SUMMARY OF THE CLAIMED INVENTION

The claimed subject matter pertains to a method for providing an adaptive channel access scheme in a radio communication system (page 1, lines 4-6). Referring to FIGs. 1, 2 and 4 the claimed method for accessing a radio communication system (100) having a plurality of radios (1-9), comprises the steps of:

- (a) separating the plurality of radios into two or more groups; (*radios 1-3 as User Group I*), (*radios 4-6 as User Group II*) and (*radios 7-9 as User Group III*), *see page 3, lines 27-30 and page 4, lines 1-9*
- (b) gathering a communication connection statistic on the plurality of radios; *see page 2, lines 22-25 and page 4 lines 13-20; and*
- (c) reconfiguring the grouping of radios based on the communication connection statistic gathered in step (b). (*radios 7, 2, 3 are now User Group I*), (*radios 4-6 remain User Group II*) and (*radios 1, 8, 9 are now User Group III*), (*see FIG. 4 and page 5, lines 3-4 and lines 10-19*)

As described on page 2, lines 13-25 the method utilizes communication statistics to minimize collision occurrence during channel access. Radio users are separated into subgroups according to the desired communication statistic. The radios within a subgroup then share a communication channel, separated by time or frequency from the communication channels allocated to other subgroups, to access the communication system in an organized fashion such that channel-access collisions are minimized. The connection statistics can be based on, but are not limited to, average channel usage, number of channel accesses per unit time, device priority, average on time of the devices, peak usage periods, or averaged receive signal strength.

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VI. ISSUES

1. Whether claims 1-7, 9 and 17 are patentable under 35 U.S.C. § 103(a) over U.S. Patent No. 5,666,655 to Ishikawa et al (Ishikawa) in view of U.S. Patent No. 6,697,345 to Corrigan III et al (Corrigan).
2. Whether claims 8, 10-14, 16 and 18 are patentable under 35 U.S.C. § 103(a) over Ishikawa in view of U.S. Patent No. 6,389,284 to Cook et al (Cook).
3. Whether claim 15 is patentable under 35 U.S.C. § 103(a) over Ishikawa in view of Corrigan and further in view of Cook and U.S. Patent No. 6,385,461 to Raith.

VII. GROUPING OF CLAIMS

For purposes of this Appeal, the Applicants are content to consider the claims as being part of one common group.

VIII. ARGUMENT

1. Claims 1-7, 9 and 17 are patentable under 35 U.S.C. § 103(a) over U.S. Patent No. 5,666,655 to Ishikawa et al (Ishikawa) in view of U.S. Patent No. 6,697,345 to Corrigan III et al (Corrigan).

Independent claim 1 recites in step (b) “gathering a communication connection statistic on the plurality of radios; and (c) reconfiguring the grouping of the plurality of radios based on the communication connection statistic gathered in step (b).”

In the Advisory Action (mailed 11/16/2004) the Examiner emphasized that “...claim 1 fails to further define what a communication connection statistic is.” Applicants respectfully point out that the term “connection statistic” is defined in the specification on page 2, lines 22-25 as being based on, but not limited to, average channel usage, number of channel accesses per unit time, device priority, average on time of the devices, peak usage periods or averaged receive signal strength. Also, dependent claim 3 recites that the communication connection statistic gathered in step (b) comprises the average channel usage by each of the plurality of radios.

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Dependent claim 4 recites that the communication connection statistic gathered in step (b) comprises the number of channel accessses per unit time by each of the plurality of radios. Dependent claim 5 recites that the communication connection statistic gathered in step (b) comprises the priority of each of the plurality of radios. Dependent claim 6 recites that the communication connection statistic gathered in step (b) comprises the average received signal strength of each of the plurality of radios. Accordingly, Applicants assert that the term communication connection statistic is sufficiently supported by the specification and claims.

The Examiner conceded that Ishikawa does not specifically disclose when the communication statistic is relating to a connection (Office Communication 7/26/2004, page 2). The Examiner further conceded that neither Ishikawa nor Corrigan specifically discloses reconfiguring the grouping of radios. (Office Communication 7/26/2004, page 3) The Examiner stated (Office Communication 7/26/2004) that "Corrigan teaches the communication statistic is relating to a connection" citing col. 12, lines 44-45. However, Corrigan's passage (col. 12, lines 45-45) specifically recites: "[t]he remote terminals may thus be "grouped" according to channel quality,..." Thus, the Examiner appears to be equating the "channel quality" of Corrigan with Applicants' communication connection statistic. However, Applicants assert that the teachings of Corrigan can not be combined into the system of Ishikawa for the reasons stated below.

The "state" of the mobile station of Ishikawa is quite different from the "channel quality" taught by Corrigan. Throughout the Ishikawa reference the "state" is referred to as a function of the mobility feature of the mobile station. Column 22, lines 18-22 of Ishikawa describe, "... according to the features of the mobile stations such as distances, the moving directions, and the moving speeds..." Thus, the features taught by Ishikawa deal with mobility features. There is no teaching or suggestion that "channel quality" as taught by Corrigan could be combined into the system of Ishikawa. In fact, doing so would cause the Ishikawa system to fail because channel quality" is not exclusively dependant upon distance, moving direction or moving speed. Propagation delay, propagation obstructions and multipath delay often affect channel quality more adversely than distance direction or speed therefore, grouping based on those parameters would be equivalent to grouping based on random selection. Furthermore, since channel quality

is a dynamic parameter that changes on the order of nano seconds, the overhead involved in grouping and regrouping radios at that rate would prove to cripple the performance of the system and diminish the purpose of the invention.

Furthermore, Ishikawa teaches using the various states (distances, moving directions, and moving speeds) of the mobile stations to accomplish two tasks. First, all unused channels get used and second, based on certain states certain radios are allocated priority to the channels. This is described in col. 2, lines 55-67 of Ishikawa and claimed in claim 8. Thus, Ishikawa uses "states" to manage priorities whereas Applicants' invention uses "connection statistics" to manage "groups/rcgroups". The Corrigan reference states that remote terminals can be grouped according to channel quality, but Corrigan cannot reconfigure groups because they are fixed units that create a static channel that is determined by the physical elements that separate the transmitter and receiver. Since the channel quality will not change on a short term basis, a regrouping procedure would result in a set of groups that were identical to the initial grouping set which would result in no net change.

As the Examiner stated in the Office Communication 7/26/2004, the Ishikawa reference does not disclose reconfiguring the grouping of radios. Applicants assert that it would not have been obvious to one skilled in the art to extend the teachings of Ishikawa to reconfigure the group of mobile units absent some teaching or suggestion to do so. Ishikawa's teachings, as mentioned above, are limited to using unused channels and channel prioritization. Neither Ishikawa nor Corrigan taken individually or combined teach reconfiguring a grouping of radios based on a communication connection statistic.

In summary, Applicants respectfully submit that the prior art of record utterly fails to describe or suggest the recitations of claim 1 and respectfully submit that claim 1 may be passed to allowance along with its dependent claims 2-7, 9 and 17.

2. Claims 8, 10-14, 16 and 18 are patentable under 35 U.S.C. § 103(a) over Ishikawa in view of U.S. Patent No. 6,389,284 to Cook et al (Cook).

Claims 8, 10-14, 16, and 18 all include, or depend on claims that include, a recitation of

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the "connection" aspect of the communication statistic. Claim 11 is an independent claim which recites the steps of (b) gathering a communication connection statistic on the plurality of radios; (c) reconfiguring the grouping of radios based on the communication connection statistic gathered in step (b); and allowing access to the radio communication system by each of the two or more groups of radios at different predetermined periods of time.

The arguments presented above (with respect to claim 1) are also applied to the rejection of claim 11. Furthermore, the Examiner stated that Cook teaches in col. 3, lines 12-15 allowing access to the radio communication system by each of two or more groups of radios at different predetermined periods of time. However, what Cook specifically recites is: "the base station is configured to grant network access to the user subscriber unit upon receiving the request for network access at the base station within the specified time for response." These are quite different, because one system is dealing with separating the chosen groups in time to allow non-interfered access to a communications channel while the other relates to the process of a base station "granting" or "denying" access to a user in a communications system. Thus, it would not be obvious to combine these three references. Even if the references were combined, the overall system would fail because there would be a conflict based on channel access as to whether a radio of a group or a radio of an individual user was allowed to access the communication channel.

None of the cited references, Ishikawa, Corrigan or Cook, taken individually or combined teach or suggest "reconfiguring the grouping of radios based on a communication connection statistic". Accordingly, Applicants respectfully submit that the prior art of record fails to describe or suggest the recitations of claims 8, 10-14, 16, and 18 under § 103(a). Additionally, claims 8, 10, 12-14, 16, and 18 are all dependent claims which provide further limitations to independent claims 1 or 11. Accordingly, Applicants respectfully submit that claims 8, 10, 12-14, 16 and 18 be passed to allowance.

3. Claim 15 is patentable under 35 U.S.C. § 103(a) over Ishikawa in view of Corrigan and further in view of Cook and U.S. Patent No. 6,385,461 to Raith.

None of the cited references, Ishikawa, Cook, or Raith taken individually or in

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combination teach or suggest reconfiguring a grouping of radios based on a communication connection statistic. In addition to the arguments presented above, the teachings of the Raith reference pertain to radios having the option to join or leave a group call based on "active user groups of interest" and as such are unrelated to forming channel access groups, to reduce channel contention, based on a communication statistic. Thus, the combination of these references is not appropriate. The prior art of record thus fails to describe or suggest the recitations of claim 15. Claim 15 also provides a further limitation to independent claim 11. Applicants respectfully submit that claim 15 be passed to allowance.

Conclusion

For the reasons set forth above, and as is apparent from a review of the above-cited references, the pending claims 1-18 present patentable subject matter such that reversal of the rejections is appropriate.

Respectfully submitted,

Please send correspondence to:
Motorola, Inc.
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8000 W. sunrise Blvd, Room 1610
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Customer Number: 24273

By: Barbara R. Dautre 12/15/04
Barbara R. Dautre Date
Attorney for Applicant
Registration No. 39,505
Tel. No. (954) 723-6449
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IX. CLAIMS APPENDIX

- 1 1. A method for accessing a radio communication system having a plurality of radios,
2 comprising the steps of:
 - 3 (a) separating the plurality of radios into two or more groups;
 - 4 (b) gathering a communication connection statistic on the plurality of radios; and
 - 5 (c) reconfiguring the grouping of radios based on the communication connection statistic
6 gathered in step (b).
- 7
8 2. A method as defined in claim 1, further comprising the step of:
 - 9 (d) allowing access to the radio communication system based on the grouping of the
10 radios.
- 11
12 3. A method as defined in claim 1, wherein the communication connection statistic gathered
13 in step (b) comprises the average channel usage by each of the plurality of radios.
- 14
15 4. A method as defined in claim 1, wherein the communication connection statistic gathered
16 in step (b) comprises the number of channel accesses per unit time by each of the plurality of
17 radios.
- 18
19 5. A method as defined in claim 1, wherein the communication connection statistic gathered
20 in step (b) comprises the priority of each of the plurality of radios.
- 21
22 6. A method as defined in claim 1, wherein the communication connection statistic gathered
23 in step (b) comprises the average received signal strength of each of the plurality of radios.
- 24
25 7. A method as defined in claim 2, repeating steps (b) through (d) periodically.
- 26

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27 8. A method as defined in claim 1, wherein the two or more groups of radios established in
28 step (a) can access the radio communication system at specified times which are different for
29 each of the two or more groups.

30
31 9. A method as defined in claim 1, wherein step (b) is performed by a radio communication
32 system controller.

33
34 10. A method as defined in claim 1, wherein step (b) is performed by each of the plurality of
35 radios.

36
37 11. A method for accessing a synchronized radio communication system having a plurality of
38 radios, comprising the steps of:

39 (a) separating the plurality of radios into two or more groups;

40 (b) gathering a communication connection statistic on the plurality of radios;

41 (c) reconfiguring the grouping of radios based on the communication connection statistic
42 gathered in step (b); and

43 (d) allowing access to the radio communication system by each of the two or more
44 groups of radios at different predetermined periods of time.

45
46 12. A method as defined in claim 11, wherein the radio communication system comprises a
47 time division multiple access radio communication system.

48
49 13. A method as defined in claim 11, wherein steps (b) and (c) are repeated periodically.

50
51 14. A method as defined in claim 11, wherein the communication connection statistic in step
52 (b) is gathered by a central radio communication system resource.

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53

54 15. A method as defined in claim 11, wherein the communication connection statistic in step
55 (b) is gathered by each of the plurality of radios.

56

57 16. A method as defined in claim 11, wherein steps (b) and (c) are performed at
58 predetermined periods of time.

59

60 17. A method as defined in claim 1, wherein the communication connection statistic
61 gathered in step (b) comprises talk-time associated with each of the plurality of radios.

62

63 18. A method as defined in claim 11, wherein the communication connection statistic
64 gathered in step (b) comprises talk-time associated with each of the plurality of radios.